25, WILTON PLACE.
S.W.

May 29/79

My dear Gray

Some specimens kindly sent me by Engelmann have proved to me that he was right about Phoradendron juniperinum. At first not finding any examinable males and not agreeing with him about the transverse circumscissile dehiscence of Arceuthobium I wrote to him still combating his views, but I have now succeeded in finding on his specimens male flowers just ready to open and I find that the plant is a true Phoradendron though very different in aspect from the rest of the genus and I have written to him acknowledging my mistake.

As to Polygoneae I have been going over them again and am still inclined to limit the Eriogoneae to those with a

bracts are various but they always appear to me to be loosely convolute enclosing the pedicel or pedicels. I should say that the want of a tubular or campanulate involucre distinguishes Koenigieae from Eriogoneae the inflorescence separates them from the other tribes and the other characters are secondary.

Why do we always write <u>ochrea</u> – knowing the classical latin word <u>ocrea</u> (a legging) I looked to see what ochrea could be derived from. There is no such latin word. indeed <u>ch</u> itself is not latin except when rendering the Greek χ and in Greek all derivatives and compounds beginning with <u>ochr</u> mean yellow or pale – from whence we have <u>ochre</u> <u>ochraceous</u> etc. It is clear that Willdenow who first used <u>ochrea</u> in botany meant the latin word <u>ocrea</u> but in the carelessness of the period he spelt it with the <u>h</u>, and he has since been blindly followed by almost all botanists. I looked through a number of textbooks that profess to give the etymologies of botanical terms without finding any explanation of <u>ochrea</u> till at last I found in Duchartre that he gives

true involucre Eriogonum Chorizanthe and the two or three intermediate genera these have no ocrea and the petioles though dilated at the base do not go all round the stem

Then I must say I think that Lastarriæa Nemacaulis Oxytheca? Pterostegia and Koenigia form a group intermediate between Eriogoneæ and Eupolygoneæ. They have no true ocrea though the petioles are dilated and amplexicaul and where (as in most cases) the leaves are opposite or whorled the petioles are united in a ring or sheath they have not the involucre of Eriogoneæ but their inflorescence is very different from that of Polygoneæ the flowers each subtended by a distinct open bract are in a terminal flat head surrounded often by 3 (or more?) floral leaves, or these heads are in the forks of the flowering branches or are lateral or apparently axillary only by the non development of one fork whilst in Polygoneæ the flowers are in axillary clusters in the axils of the stem leaves or the upper ones ~~degenerating~~ passing more or less into a terminal spike or all limited to a terminal spike — sometimes the flowering branches so short as to leave the cluster or spike or spike in a cluster of leaves at the nodes but still very different from the head of Koenigieæ

The ocrea is a secondary character nearly but perhaps not quite constant in Polygoneæ Rumiceæ Coccolobeæ and Triplarideæ more or less evanescent or rudimentary in Koenigieæ wholly absent in Eriogoneæ (I include the whole of Polygonaceæ in these six tribes).

In Polygoneæ etc generally the flowers are 2 or more together but sometimes solitary in a loose more or less ochrea like scarious bract often within a scarious subtending bract but these bracts appear variable. In P. viviparum there certainly is a loose bract enclosing the pedicel within the subtending one, whilst in the nearly allied P. bistorta the flowers seem to be several within the bract in others the

the derivation from the classical latin and accordingly spells it ocrea though in another part of the same text book as also in the index he inadvertently writes ochrea. I think under these circumstances we are bound to revert to the correct classical spelling.

I have got from Hooker the copy of Nyctagineae Illecebraceae and Amarantaceae revised for press and am only waiting for his last revision of Chenopodiaceae and Phytolaccaceae to put the copy into the printers hands - the remaining orders are all revised for press except Polanisporeae and Gymnospermeae which however can easily be got ready whilst the previous orders are printing. I am getting very anxious to have them in print before my powers wear out.

We have had a nasty cold dreary winter and spring but I do not think that people are really much the worse for it

Yours very sincerely

George Bentham

Many thanks for the photography

sheets of your text book I am much pleased with them. Your text books have the great advantage of being practical as well as theoretical — whilst there is too general a wish now to teach botany almost exclusively in a theoretical point of view

In several of the Chilean Chorizanthes there are as evident true ochreae as in any Polygonum.

The [illegible] pair of leaves in [illegible] [illegible] sheathing. — S.W.

All well. No news.

Tuesday morning